SONY

3-752-950-01 (1)

English

Español

Video Cassette Recorder

Operating Instructions
Manual de instrucciones

SLV-X95

VHS
PAL SECAM NTSC

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WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

To avoid electrical shock, do not open the cabinet.
Refer servicing to qualified personnel only.

Caution
Television programs, films, video tapes and other materials may be copyrighted.
Unauthorized recording of such material may be contrary to the provisions of the copyright laws.

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Precautions

On safety

- Operate the unit only on 110V - 240 V AC, 50/60 Hz.
- Should anything fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Unplug the unit from the wall outlet if it will not be used for an extended period of time. To disconnect the cord, pull it out by the plug. Never pull the cord itself.
- The unit is not disconnected from the AC power source as long as it is connected to the AC power outlet, even if the unit itself has been turned off.
- The nameplate indicating operating voltage, power consumption, etc. is located on the rear of the unit.

On installation

- Allow adequate air circulation to prevent internal heat build-up.
- Do not place the unit on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies) that may block the ventilation slots.
- Do not install the unit near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.
- The unit is designed for operation in a horizontal position. Do not install it in an inclined position.
- Keep the unit and cassette tapes away from equipment with strong magnets, such as microwave ovens or large loud speakers.
- Do not place any heavy object on the unit.

On operation

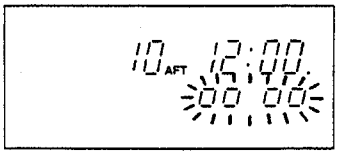
- When the unit is not in use, turn the power off to conserve energy and to extend the life of the unit.
- Remove and store video cassettes after recording or playback.
- Store the cassettes in their cases and keep them in an upright position to prevent intrusion of dust and uneven winding.

On moisture condensation

If the unit is brought directly from a cold to a warm location, moisture may condense on the video head drum. In this condition, the tape may adhere to the head drum and cause serious damage to the head. To avoid damage caused by moisture condensation, be sure not to leave a cassette inside the compartment when the unit will not be used. When the unit is first installed, or when it is moved from a cold to a warm location, wait for about 30 minutes before operating it so that its temperature becomes identical to the room temperature.

If moisture condensation is present

The dew mark (0000) appears in the display window and the unit will not operate.



Leave the unit until its temperature reaches the room temperature and the indicator will disappear.

On cleaning

Clean the cabinet, panel and controls with a dry soft cloth, or a soft cloth slightly moistened with a mild detergent solution. Do not use any type of solvent, such as alcohol or benzine, which might damage the finish.

On repacking

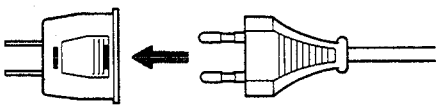
Do not throw away the carton and packing materials. They make an ideal container in which to transport the unit. When shipping the unit to another location, repack it as illustrated on the carton.
If you have any question about this unit, contact your Sony service facility.

On color system

- This unit is designed to receive programs based on the PAL (I, B/G and D/K), SECAM (B/G and D/K) and NTSC3.58 color systems and to record and play back in these systems, plus NTSC4.43.
- Tapes recorded with the French SECAM color system can be played back on this unit. It is not possible to receive French TV broadcasts with this unit.

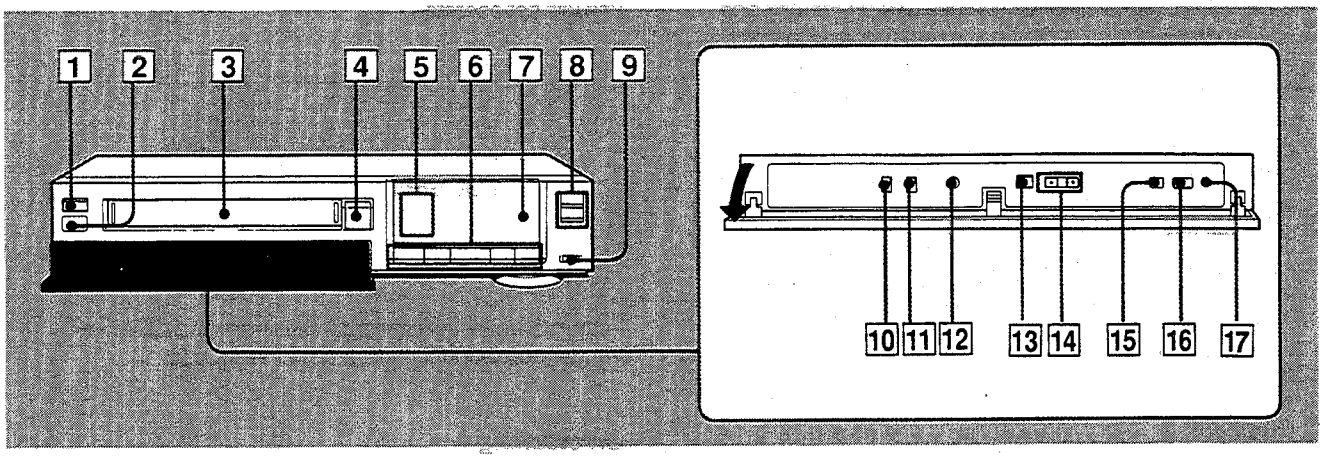
Use of the supplied AC plug adaptor

If the plug does not fit into the wall outlet, use the supplied AC plug adaptor.



Location and Function of Parts and Controls

Front Panel



1 **ON/STANDBY switch and indicator**

2 **Remote sensor**

3 **Cassette compartment**

4 **⏏ EJECT button**

5 **Color system/DIGITAL AUTO TRACKING indicators**
The color system indicators show the color system of the received signal.
The DIGITAL AUTO TRACKING indicator lights while auto tracking function works.

6 **Tape transport buttons**
■ STOP, **◀◀ REW** (rewind), **▶ PLAY**, **▶▶ FF** (fast-forward), **II / ▶I◀ PAUSE/STILL**

7 **Display window**

8 **PROGRAM +/– button**

9 **● REC (record) button**

10 **COLOR SYSTEM SELECT (SECAM PB/NTSC PB) switch ⑩**
Selects the color system when playing back tapes recorded with French SECAM system or NTSC system on PAL TVs.
Normally set this switch to the top position.

11 **COLOR SYSTEM SELECT (AUTO/NTSC$_{3.58}$/NTSC$_{4.43}$) switch ⑩**
Selects the color system.

12 **SHARPNESS control ⑰**
Use to adjust the sharpness of the picture if necessary.
Normally set the control at the center detent position.

13 **REC (recording) MODE button**
Press to select the recording tape speed: SP or LP for PAL and MESECAM systems and SP or EP for NTSC system.

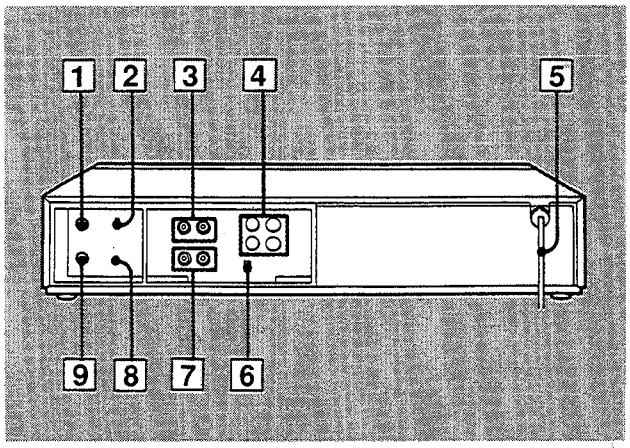
14 **TRACKING/FINE TUNING ▼/▲ button ⑯**

15 **TUNER PRESET button ⑫**

16 **NEXT button ⑫**

17 **CL (all clear) button**
When the malfunction occurs, press this button with the pencil or similar object.
When this button is pressed, all memorized data (for time, date, timer setting and tuner presetting) will be cleared and "88:88" will blink in the display window.

Rear Panel



1 **AERIAL IN connector**
Connect the aerial cable.

2 **TEST SIG. (signal) switch ⑨**
Set to ON to obtain the test pattern for adjusting the TV so that it can receive the signal from the VTR.

3 **VIDEO/AUDIO INPUT jacks (phono type)**

4 **STILL V-LOCK (vertical lock) control ⑱**
If the picture shakes during the still or slow playback mode, adjust the appropriate control until the picture is stable.

5 **AC power cord**

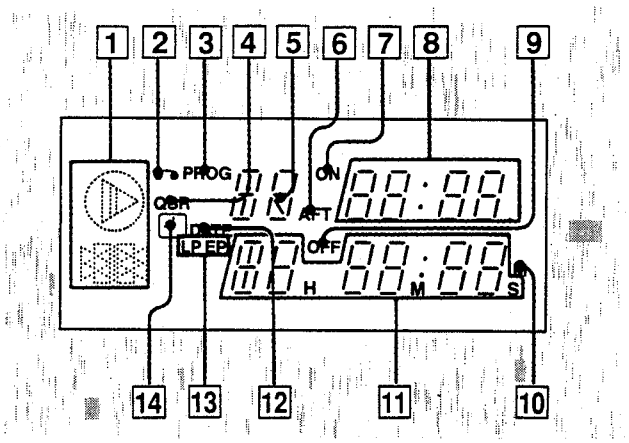
6 **TV SYSTEM selector ⑩**
Selects the TV system in your area.

7 **VIDEO/AUDIO OUTPUT jacks (phono type)**

8 **RF CHANNEL selector ⑨**
If there is interference on the factory preset channel for RF output and the signal of the VTR cannot be displayed clearly on the TV screen, adjust this selector.

9 **AERIAL OUT connector**
Connect to the aerial input of the TV receiver using the supplied cable.

Display Window



1 **Mode display**

2 **Cassette indicator**

3 **PROG (program) indicator**
Appears when setting the timer for the timer-activated recording.

4 **QSR (quick start recording) indicator**
Appears while the VTR is performing quick start recording.

5 **Program number**

6 **AFT (automatic fine tuning) indicator**

7 **ON (on-time) indicator**

8 **Current time/tracking position indicator**
Indicates the current time. Also indicates the timer-activated recording start time.
When adjusting tracking, indicates the tracking position.

9 **OFF (off-time) indicator**

10 **M (memory) indicator**

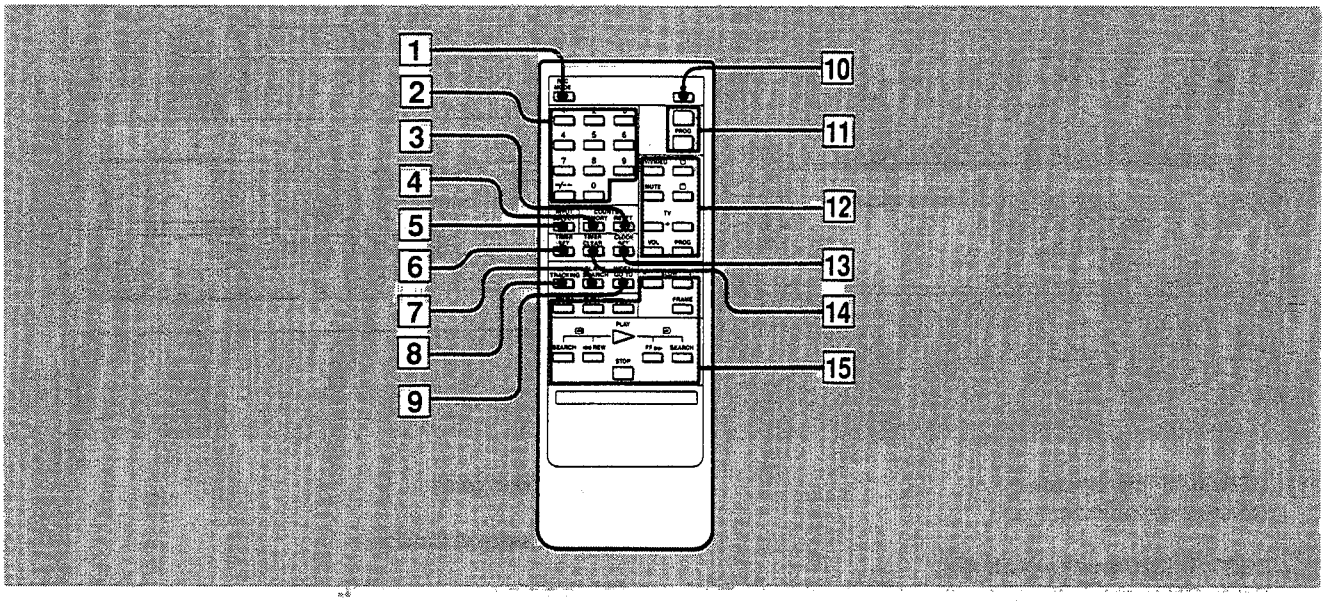
11 **Linear tape counter**
Indicates the elapsed time of the recording or playback. Also indicates the timer-activated recording end time.

12 **DATE indicator**

13 **Tape speed indicator**

14 **⏲ (timer standby) indicator**
Appears while the VTR is waiting for the turn-on time of timer recording.

Remote Commander



1 **REC (recording) MODE button**
Press to select the recording tape speed: SP or LP for PAL and MESECAM systems and SP or EP for NTSC system.

2 **Number buttons and -/-- (ten's digit) button**

3 **COUNTER RESET button** ⑳

4 **COUNTER MEMORY button** ㉑

5 **INPUT SELECT button** ⑲
Press to select the sources to be recorded.

6 **TIMER SET button** ㉒

7 **BLANK SEARCH button** ㉚

8 **AUTO TRACKING button**

9 **INDEX/GO TO button** ㉗㉘㉙

10 ⏻ **(power-on/standby) button**
Used only for the VTR.

11 **PROG (program) +/– buttons**

12 **Buttons for operating a TV**
TV/VIDEO: for selecting the input signal
MUTE (muting): for muting the sound immediately. To restore the sound, press again.
⏻ **(power standby),** ▢ **(power-on),**
VOL (volume) +/–, PROG (program) +/–

13 **CLOCK SET button** ⑧

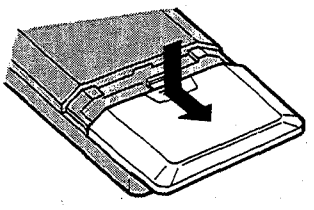
14 **TIMER CLEAR button** ㉔

15 **Tape transport buttons**
II PAUSE, ● **REC and the recording auxiliary button** (right side), **I► SLOW +/–, II►**FRAME, **► PLAY,** ⏪/⏩ **SEARCH** (reverse/forward), **◄◄ REW** (rewind), **►► FF** (fast-forward), **■ STOP**

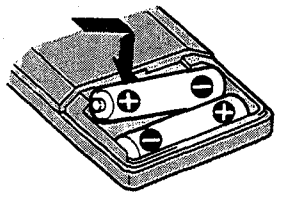
Connections

Battery insertion

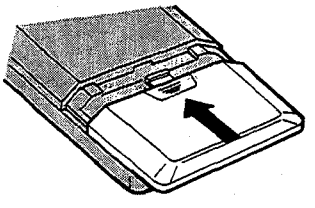
1 Open the lid.



2 Insert two R6 (size AA) batteries with the polarity lined up correctly.



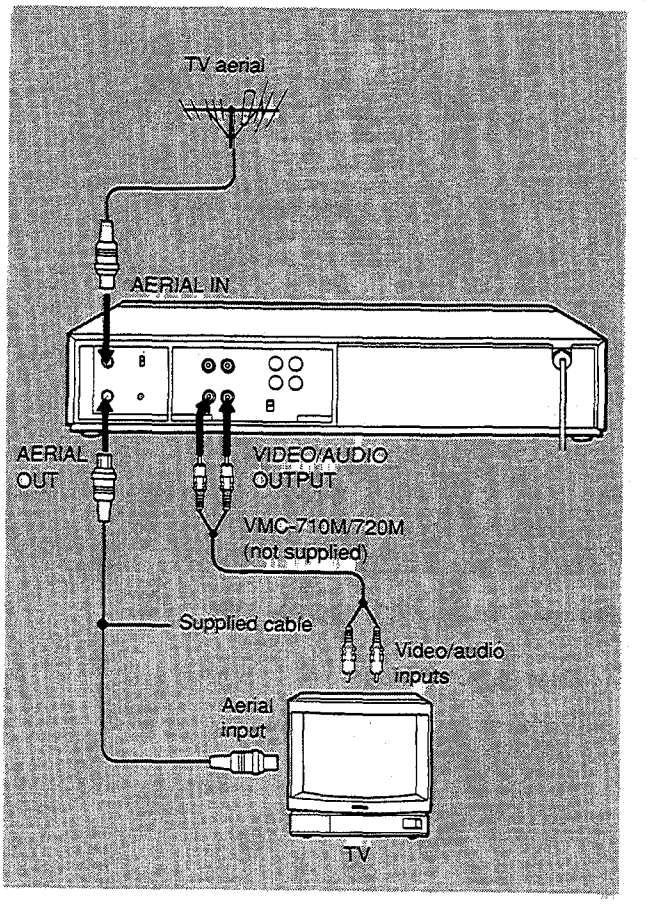
3 Close the lid.



Notes on the handling of batteries

- With normal operation, the batteries will last for approximately 6 months.
- If the Commander will not be used for a long period of time, remove the batteries to avoid possible damage from battery leakage.

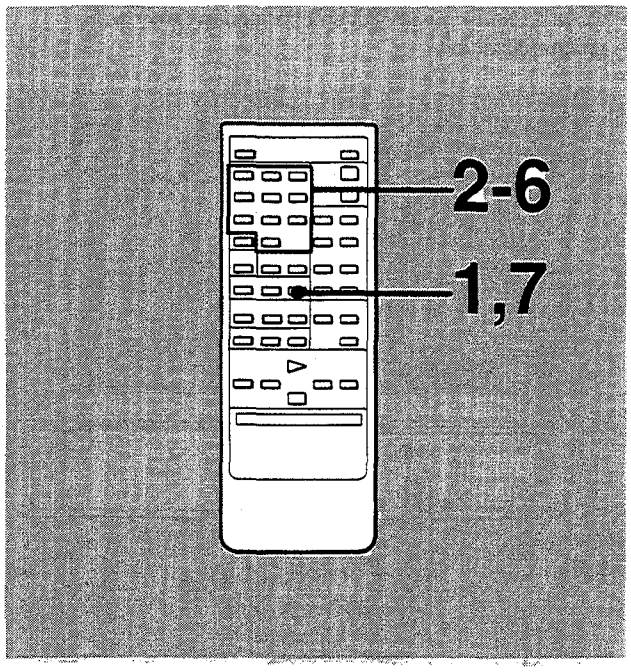
- Turn off the power of the VTR and TV.
- Do not connect the AC power cord until all of the connections are completed.
- Connect firmly since a loose connection may cause picture distortion.



If your TV is equipped with video/audio input jacks, connect them to the VTR's VIDEO/AUDIO OUTPUT jacks to view a higher quality picture. To watch the playback picture, set the TV/VIDEO input selector on the TV to VIDEO.

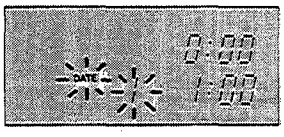
Date and Clock Setting

When the VTR is first connected to the wall outlet and the power is turned on, "88:88" will blink in the display window.

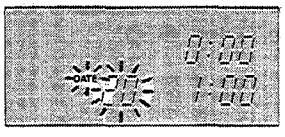


Example: To set to17:30 April 20, 1992

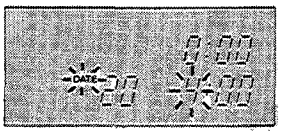
1 Press CLOCK SET.



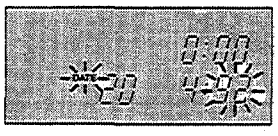
2 Set the day.
Press the number button 2 and then 0.



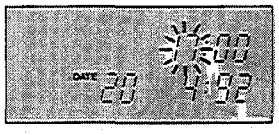
3 Set the month.
Press the number button 0 and then 4.



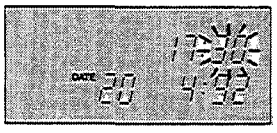
4 Set the year.



5 Set the hour.



6 Set the minutes.



7 Press CLOCK SET simultaneously with a time signal.

To enter the unit's digit number

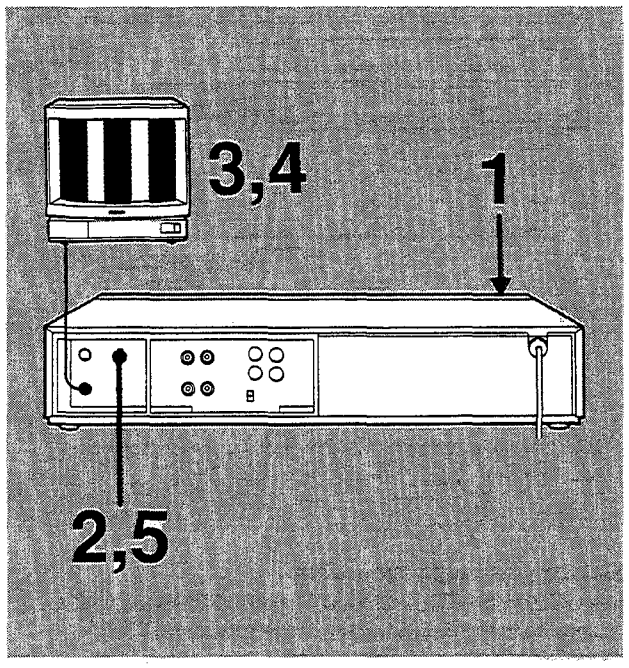
Press "0" first, and then the desired number.

To correct the date and clock

1 Press CLOCK SET on the Commander.
2 Press PROGRAM (PROG) +/– until the number to be corrected blinks.
3 Correct the number with the number buttons.
4 Press CLOCK SET again.

Adjusting the TV

If you have connected your VTR and TV using only the aerial connector, one of the television program positions must be adjusted to receive the VTR's playback signal. If the connection of the TV and VTR is made by other means, skip this step.



1 After making the connections, press ON/ STANDBY on the front.

2 Set TEST SIG to ON.
The test signal is transmitted on a channel between UHF channels 30 and 39.

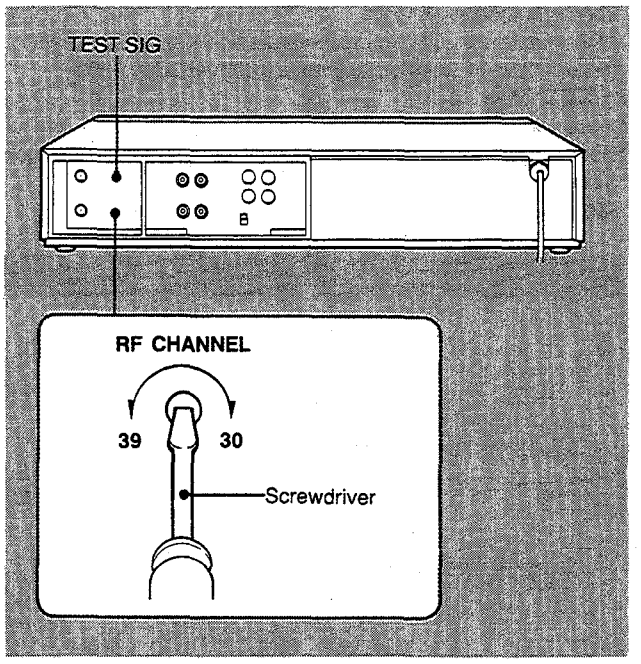
3 Turn on the TV and select a program position which is *not* used to receive a TV station.

4 Tune the channel until you see a clear test pattern on the TV screen.

5 Set TEST SIG to OFF.

Whenever you use the VTR, you should set the TV to the program position selected in this adjustment.

If the test pattern is not free of disturbance

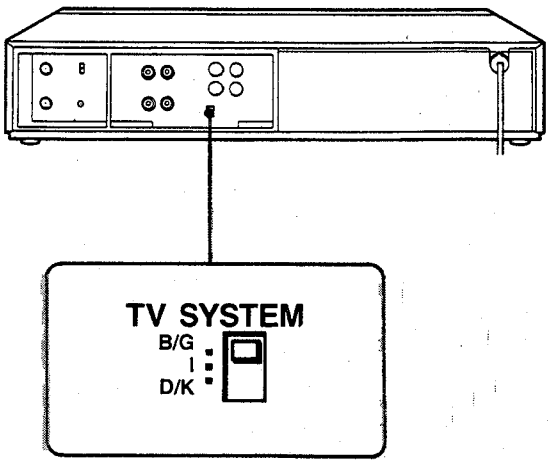


1 Reset TEST SIG to OFF.
2 Adjust the channel of the TV to a channel between UHF channels 30 to 39 so that the TV screen shows no picture and so that no sound is heard.
3 Set TEST SIG to ON.
4 Turn RF CHANNEL slowly until you see an undistorted test pattern on the TV screen.
5 Set TEST SIG to OFF.

Color System

The VTR receives TV programs based on the PAL (B/G, I, D/K), SECAM (B/G, D/K) and NTSC (M) systems and records in these systems.
When you record TV programs based on the SECAM B/G and SECAM D/K systems, they are converted into the MESECAM system.
When you play back the tape, set the COLOR SYSTEM SELECT switches according to the TV to be used and tape to be played back.
See next page for the systems which can be played back.

Setting the TV System

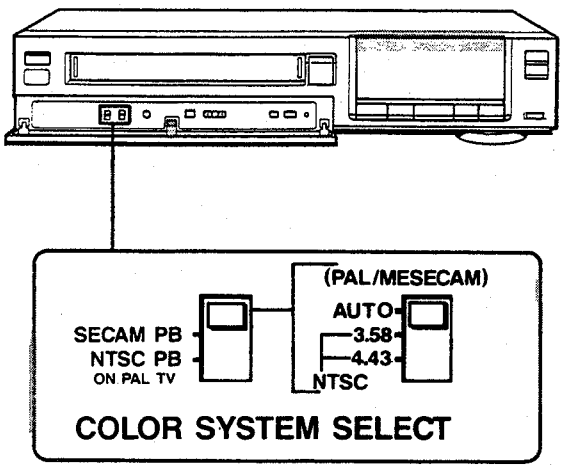


Before you record TV programs, set TV SYSTEM according to the TV system in your area.

B/G: For TV programs based on the PAL B/G or SECAM B/G system
I: For TV programs based on the PAL I system
D/K: For TV programs based on the PAL D/K or SECAM D/K system

Notes
- There is no need to set TV SYSTEM for NTSC system.
- If you do not know the TV system used, set TV SYSTEM to the position at which audio can be heard. Normal audio cannot be heard if TV SYSTEM is set to the incorrect position.

Setting the Color System



Before you begin recording

Set COLOR SYSTEM SELECT (AUTO/NTSC3.58/NTSC4.43) according to the color system of the program to be recorded.
The indicator of the selected system lights.

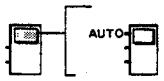
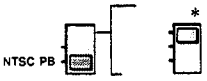
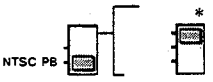
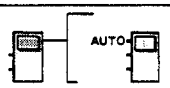
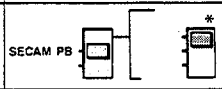
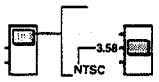
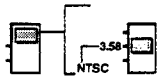
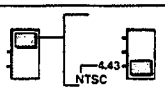
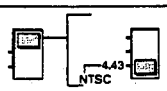
AUTO: To record TV programs based on the PAL or SECAM system
The PAL or MESECAM color signals are automatically selected.
NTSC3.58: To record TV programs based on the NTSC3.58 system.
NTSC4.43: To record the video signals based on the NTSC4.43 system.

Note
You may set COLOR SYSTEM SELECT (SECAM PB/NTSC PB) to any position.

Before you begin playback

Set COLOR SYSTEM SELECT (AUTO/NTSC3.58/NTSC4.43) and COLOR SYSTEM SELECT (SECAM PB/NTSC PB) as in the list according to the tape to be played back and the TV to be used.

– : The playback picture cannot be viewed.
* : You may set this switch to any position.

TV to be used	Tape to be played back				
	PAL	MESECAM	F SECAM	NTSC3.58	NTSC4.43
PAL		—	—		
SECAM	—			—	—
NTSC3.58	—	—	—		
NTSC4.43	—	—	—		

Notes

- When playing back tapes recorded with the NTSC3.58 and NTSC4.43 systems, the picture may be shrunk vertically or may not appear on the screen depending on the TV connected.
- If your TV does not conform to the color system of the program to be recorded or the tape to be played back, you cannot view the program to be recorded or played back.

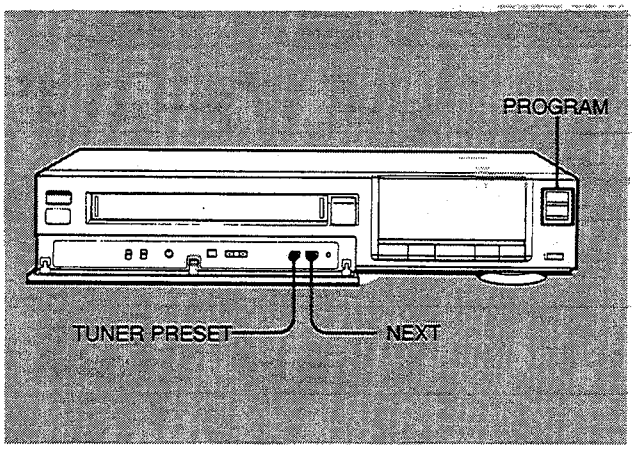
Channel Coverage

SYSTEM	AREA	RECEIVING CHANNELS			OUTPUT SETTING BY RF CHANNEL SCREW	
		VL	VH	U	PRESET	ADJUSTABLE
PAL B/G	Western Europe	2 — 4 X — Z S1, S2	S3 — S10 5 — 12 S11 — S20	21 — 69	36	30 — 39
	Turkey, Kuwait, U.A.E., Oman, Jordan	2 — 4	5 — 12	21 — 69		
	Australia	0 — 5	5A — 11	28 — 69		
	Indonesia	2, 3	4 — 11	21 — 69		
PAL I	United Kingdom, Hong Kong	—	—	21 — 69	36	30 — 39
	Ireland	A — C, S1, S2	D — G, H, J S3 — S20	21 — 69		
	South Africa	—	4 — 11, 13	21 — 69		
PAL D/K	China	1 — 5	6 — 12	13 — 56	24 — 25	22 — 26
SECAM B/G	Saudi Arabia, Iran, Iraq, Libya, Egypt, Morocco, East Germany, Greece, Syria	2 — 4	5 — 12	21 — 69	36	30 — 39
SECAM D/K	East Europe, Soviet Union	1 — 5	6 — 12	21 — 69	36	30 — 39
NTSC3.58	USA	2 — 6 A-8 — A-6, A-5 — A-2	7 — 13 A — W	14 — 78	34	26 — 38
	Japan	1 — 3	4 — 12	13 — 62	33	25 — 37

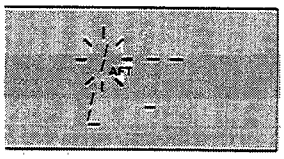
Presetting the Active Channels in Your Area

Presetting the Active Channels

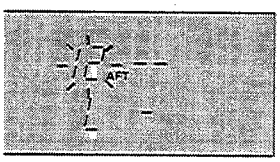
Before you begin, turn on the VTR and the TV.
Make sure that the TV is set to the correct program position for the VTR or select the input for the VTR.



1 Press TUNER PRESET.

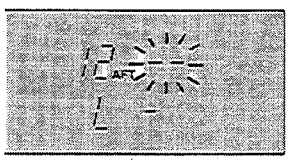


2 Press PROGRAM +/– until the desired program position number appears in the display window.



Then press NEXT.

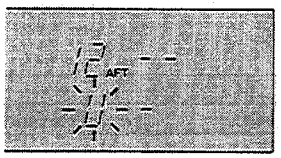
3 Press PROGRAM + or – to select the TV system to be preset.



– –: B/G, D/K
CA: I

Then press NEXT.

4 Press PROGRAM +/– until the desired band indicator appears in the display window.

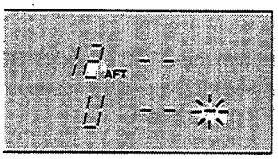


L:VL
H:VH
U:U

Then press NEXT.

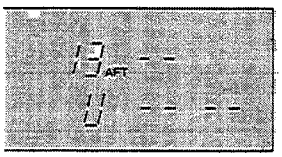
- For the band indicator and the corresponding channels, see page 11.
- "S" will also appear at the band indicator position. "S" should be selected to erase unwanted program position. See page 13.

5 Press PROGRAM +/–.
A channel being used for a broadcast is found automatically.



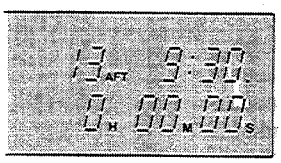
If the channel is not the desired one, press PROGRAM + or – again.

6 Then press NEXT.
The selected channel is preset to the selected program positions.



Repeat steps 2 to 6 to preset other channels to other program positions.

7 Press TUNER PRESET again.
The display will return to the normal display.



Selecting TV Program positions

Keep pressing PROGRAM +/– until the desired station is tuned in.
For lower-numbered program positions, press "–", and for higher-numbered program positions, press "+".

Fine-tuning a weak station

Normally, the automatic fine-tuning function works when a station is tuned in. (The AFT indicator appears in the display window.)
If the picture of a particular channel is not acceptable, proceed as follows.

1 Select the unsatisfactory station by pressing PROGRAM + or –.
2 Press TUNER PRESET.
3 Press TRACKING/FINE TUNING ▼/▲ until the best possible picture and sound are obtained.
The AFT indicator is turned off.
4 Press TUNER PRESET.

Erasing Unwanted Program Positions

After presetting TV channels to the program positions, you can designate unwanted program positions so that the program positions will be skipped when you search for the channel with PROGRAM +/–.

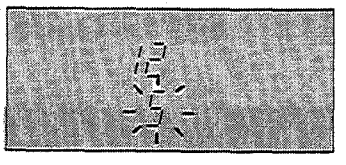
1 Turn on the VTR and the TV.

2 Press TUNER PRESET.

3 Press PROGRAM +/– until the program position number to be skipped appears in the display window.

4 Press NEXT twice.

5 Press PROGRAM +/– until "S" appears and blinks at the band indicator position in the display window.



6 Press NEXT.

7 Repeat steps 3 to 6 to designate other program positions to be skipped.

8 Press TUNER PRESET.

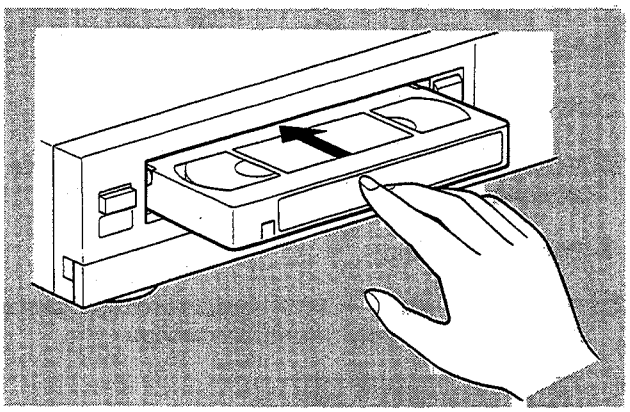
Cancelling the skip function

Preset again the TV channel to the program position which has been set to be skipped.

Handling Video Cassettes

Inserting a Cassette

Insert the cassette by gently pressing the center of the back of the cassette.
The power will be turned on automatically.



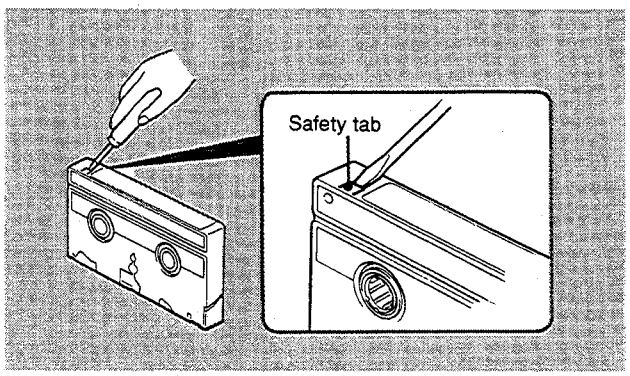
Ejecting a Cassette

Press ⏏ EJECT.
When the power is off and ⏏ EJECT is pressed, the VTR is turned on automatically and the cassette is ejected. After which, the power is turned off automatically.

Note
While the VTR is in recording mode, press ■ STOP to stop recording and then press ⏏ EJECT.

To Avoid Erasing a Recorded Tape

When a new recording is made on a previously recorded cassette, the old recording will be erased automatically. To avoid accidental erasure, break off the safety tab using a screwdriver or similar tool.



To re-record a cassette whose safety tab is broken off
Cover the slot with a piece of plastic tape, where the safety tab has been removed.

Maximum Recording Time of a Tape

Select the tape speed with REC MODE before recording. During playback, the tape speed automatically changes according to the inserted cassette.

PAL, MESECAM

Cassette tape	REC MODE setting	
	SP mode	LP mode
E-30	30 min.	1 hr.
E-60	1 hr.	2 hrs.
E-90	1 hr. 30 min.	3 hrs.
E-120	2 hrs.	4 hrs.
E-150	2 hrs. 30 min.	5 hrs.
E-180	3 hrs.	6 hrs.
E-195	3 hrs. 15 min.	6 hrs. 30 min.
E-210	3 hrs. 30 min.	7 hrs.
E-240	4 hrs.	8 hrs.

NTSC

Cassette tape	REC MODE setting	
	SP mode	EP mode
T-30	30 min.	1 hr. 30 min.
T-60	1 hr.	3 hrs.
T-120	2 hrs.	6 hrs.
T-160	2 hrs. 40 min.	8 hrs.

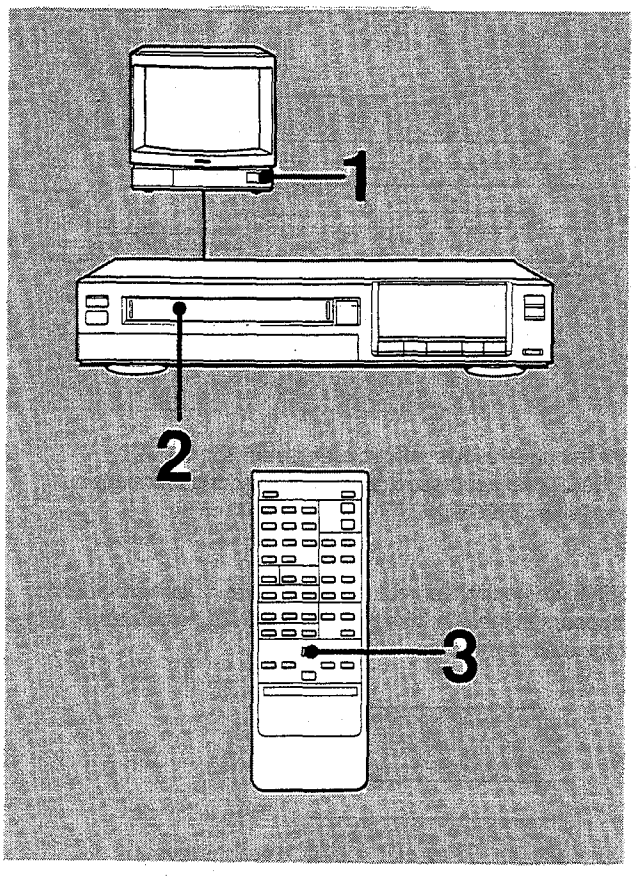
Notes
- In the SP mode, the tape runs three times as fast as in the EP mode, and twice as fast as in the LP mode.
- When the PAL format cassette is used for the NTSC system recording, the actual recording time is shorter than the standard recording time stipulated on the cassette.

Playback

To be continued ►

Playing Back a Tape

Before starting playback, set COLOR SYSTEM SELECT to the appropriate position according to a tape to be played back. For details, see page 11.



1 Turn on the TV and select the program position for the VTR or select the input for the VTR.

2 Insert a cassette.
The power is turned on automatically, and the ⟲ indicator appears in the display window.
If you insert a cassette whose safety tab is broken off, playback will start automatically.

3 Press ► PLAY.
Playback begins.

To stop playback
Press ■ STOP.

To advance the tape rapidly
Press ►► FF.

To rewind the tape
Press ◄◄ REW.

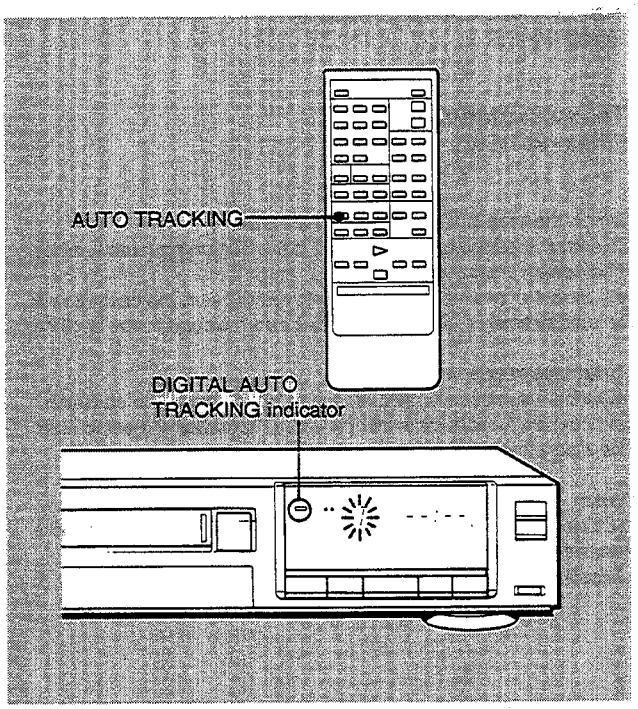
When the tape is played back to the end
The tape is automatically rewound to the beginning (auto rewind). The power remains on.
If a cassette with the safety tab removed is used, the cassette will be automatically ejected after it has been rewound to the beginning.

If the tape reaches its end
It will be automatically rewound to the beginning. If the cassette without safety tab is inserted, it will be automatically ejected after the tape is rewound.

Note
Sufficient picture quality may not be obtained when playing back tapes recorded on another VTR, or tapes with unsatisfactory recording.

If Streaks or Noise Bands Appear

Automatic adjustment



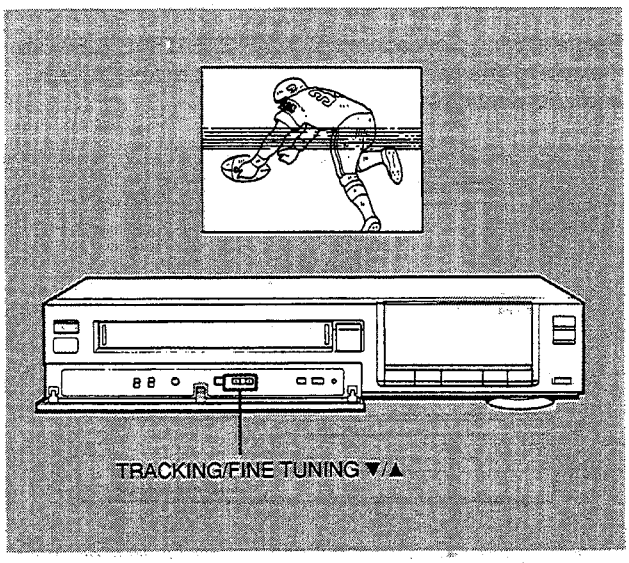
Press AUTO TRACKING during playback.
The DIGITAL AUTO TRACKING indicator lights and the "T --:--" indicator appears in the display window.

The auto tracking function works automatically for about four seconds

- When the tape is played back just after the tape is inserted.
- When the tape speed is changed.

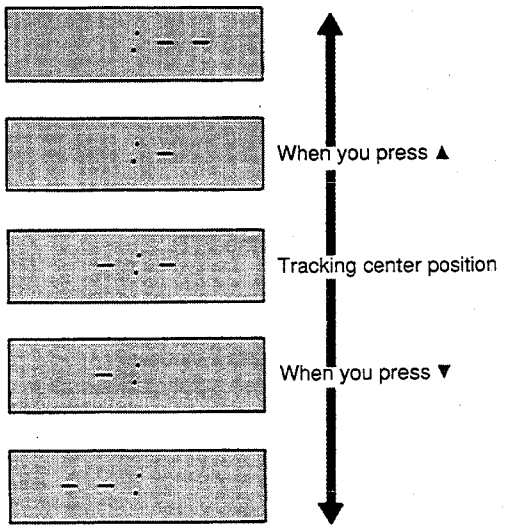
When a prerecorded tape with the copyguard system is played back
The intermittent distortion may appear in the upper portion of the picture. However it is not failure of this VTR.

Manual adjustment



If the noise level is not reduced even when AUTO TRACKING is pressed, adjust the tracking manually by pressing TRACKING/FINE TUNING ▼ or ▲.

While adjusting the tracking, the tracking position indicator appears in the display window. The tracking position will be indicated as follows:

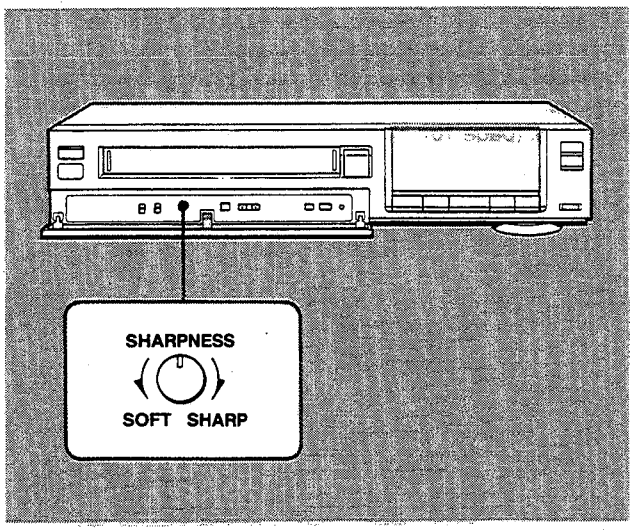


About three seconds after the button is pressed, the counter display will reappear.

Various Playback Modes

To be continued ►

To Adjust the Sharpness of the Picture



SHARP: To get a sharp picture
SOFT: To get a soft picture

Locked Picture Search

You can watch the picture while advancing the tape rapidly or rewinding the tape.

During normal playback

Press ⏪/⏩ SEARCH on the Remote Commander.
To resume normal playback, press ► PLAY.

Picture Search

You can watch the picture at high speed as long as the specific button is kept pressed.

During normal playback or still picture

Press and hold ▶▶ FF or ◀◀ REW.
When you release the button, normal playback or still picture will resume.

During advancing the tape rapidly

Press and hold ▶▶ FF.
When you release the button, the tape will be advanced rapidly again.

During rewinding the tape

Press and hold ◀◀ REW.
When you release the button, the tape will be rewound again.

Still Picture

Press ⏸/▶⏮ PAUSE/STILL on the VTR or ⏸ PAUSE on the Remote Commander during normal playback or one of the various playback modes.
To release the still picture, press ► PLAY, ⏸/▶⏮ PAUSE or ⏸ PAUSE.

Note
If the still picture mode lasts for more than approximately 5 minutes, the VTR enters the stop mode automatically.

Frame-by-Frame Picture

Press ⏸▶ FRAME on the Remote Commander in the pause mode. Each time the button is pressed, the picture advances by one frame.

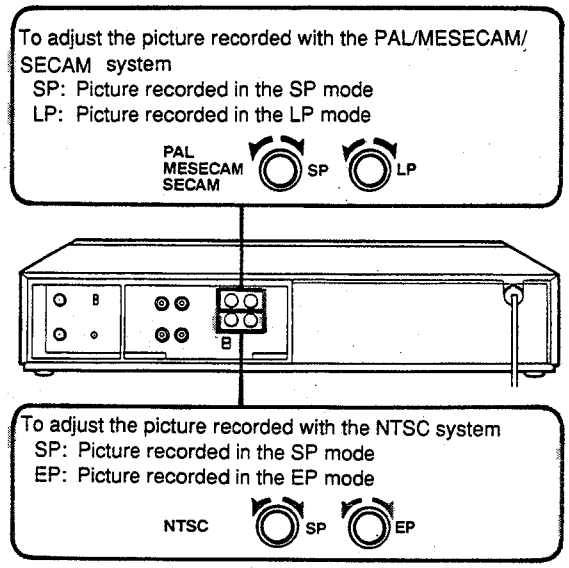
Slow Motion Picture

Press I► SLOW +/– on the Remote Commander during playback or in still picture mode.
The + and – buttons determine how slow the tape runs (from 1/5th to 1/25th in PAL and MESECAM systems or 1/30th in NTSC system of the normal playback speed). The tape speed will change each time the button is pressed.
When you keep I► SLOW +/– pressed, the slow motion picture advances continuously.
To resume normal playback, press ► PLAY.

Note
If the slow motion picture mode lasts for more than approximately 5 minutes, the VTR enters the stop mode automatically.

To View the Stable Picture

If the picture shakes during the still or slow playback mode, adjust the picture with STILL V-LOCK.



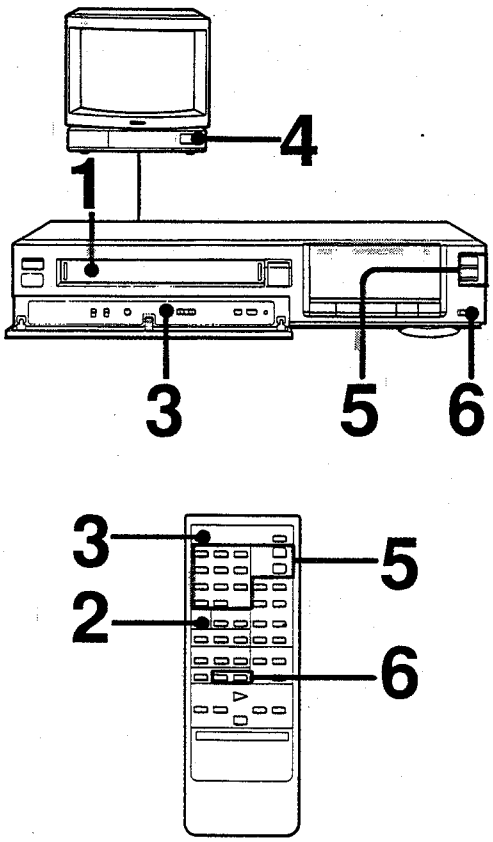
About the playback picture of a tape recorded in NTSC system or in the LP mode in PAL or MESECAM system
The picture quality of the still, frame-by-frame and slow motion pictures cannot be guaranteed with this VTR, when the tape is recorded on another VTR.

During picture search mode
Noise bands appear. This is normal and is not a problem.

Recording TV Programs

Recording

Before you begin, make sure that you finished all the connections and adjustments on pages 7 through 13.
Set COLOR SYSTEM SELECT and TV SYSTEM to the appropriate position according to the program to be recorded. (page 10)



1 Insert a cassette.
The power is turned on automatically and the ⟲ indicator appears.

2 Press INPUT SELECT, if the AU indicator lights in the display window.

3 Press REC MODE to select the recording tape speed. (SP or LP for the PAL and MESECAM systems, SP or EP for the NTSC system)

4 Turn on the TV and select the program position for the VTR or select the input for the VTR.

5 Select the program position to be recorded.
To select a program number over 9 with the number buttons, press -/- - first and then the ten's digit and the unit's digit.

6 Press ● REC on the VTR, or press ● REC on the Remote Commander while pressing the recording auxiliary button.
Recording will begin.

When you want to record a program without watching the TV

Turn off the power of the TV or color monitor.

To stop the tape momentarily during recording

Press II/▶◀ PAUSE/STILL on the VTR or II PAUSE on the Remote Commander.
To resume recording, press II /▶◀PAUSE/STILL or II PAUSE again.

When the tape reaches its end

The tape is automatically rewound to the beginning (auto rewind). The power remains on.

If the safety tab on the cassette has been broken off

The cassette will be ejected automatically when ● REC is pressed.

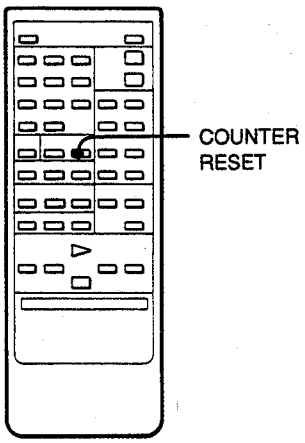
To View One TV Program While Recording Another

Simply select the program you want to view on the TV.
If you do not connect a TV tuner together with the monitor, you cannot watch a TV program while recording another program.

Use of the Tape Counter

The tape counter indicates the approximate running time of the tape and the relative position of programs on the tape.

Indexing the Tape Contents

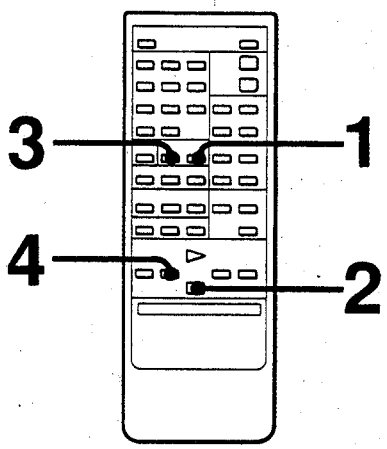


Before starting recording or playback, press COUNTER RESET on the Remote Commander to set the counter to "0H00M00S." By noting the counter reading at the desired point, you can easily find that point later by referring to the counter. Use the label on the cassette to list the programs and their counter readings.

Notes

- The counter reading is automatically reset to zero when a cassette is newly inserted.
- The counter reading will be retained in the memory even after the power is turned off, as long as the cassette is in the cassette compartment.
- The counter will not advance during any portion of a tape that is unrecorded. So the counter can be used to find unrecorded section on a tape.

Locating the "0H00M00S" Position

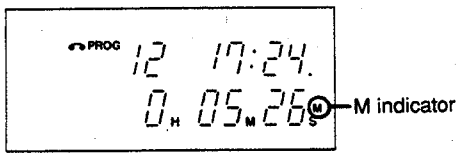


The VTR can memorize the tape position when the counter shows "0H00M00S."
Once the position is memorized, the VTR stops automatically at that position after fast-forwarding or rewinding. Thus you can locate a particular point quickly.

1 During playback or recording, press COUNTER RESET at the point you want to locate later.
The counter will indicate "0H00M00S."

2 When recording or playback is finished, press ■ STOP.

3 Press COUNTER MEMORY so that the M indicator appears.



4 Press ◀◀ REW to rewind the tape.
The tape stops automatically at the position right before the "0H00M00S" point.

You can rewind the tape further by pressing ◀◀ REW again. The tape counter shows a negative value with a (–) sign. In this case, the "0H00M00S" position can be located by pressing ▶▶ FF.

To cancel the memory

Press COUNTER MEMORY on the Remote Commander.

Note

The counter will not advance during any portion of a tape that is unrecorded.

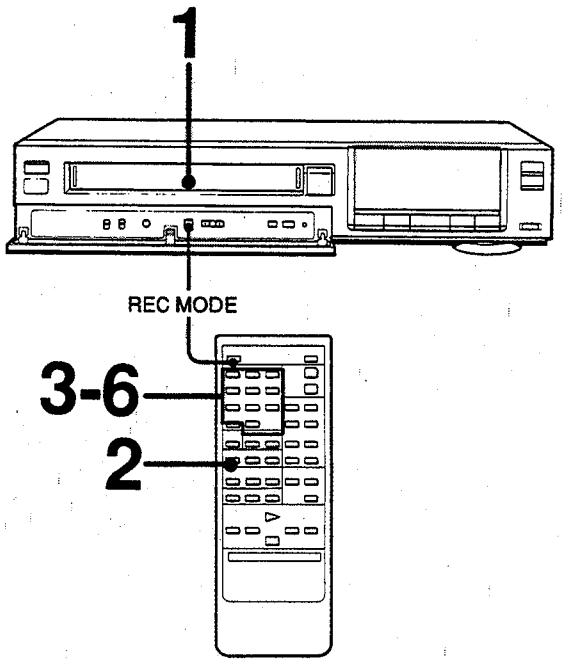
Timer Activated Recording

You can preset up to six recordings as much as one year in advance.

Timer Setting

Check the followings before setting the timer:

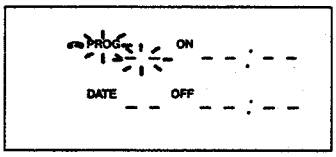
- The date and clock must be set correctly. (See page 8.)
- Make sure that the cassette tape is long enough to record all the programs.
- Be sure that the safety tab of the cassette has not been broken off.
- Set the recording tape speed (SP or LP for PAL and MESECAM systems or SP or EP for NTSC system) by pressing the REC MODE button on the VTR or Remote Commander.



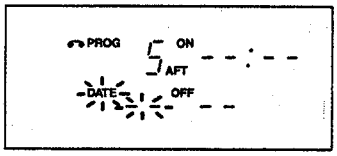
Example: To set program position 5 from 9:30 PM to 11:15 PM on October 24, 1992

1 Insert a cassette.

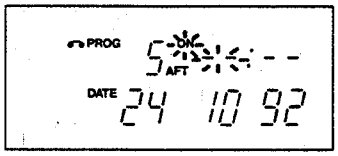
2 Press TIMER SET.



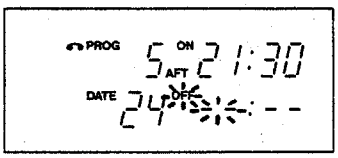
3 Set the program position.
When the unit's digit number is set, press "0" first, and then the desired number.



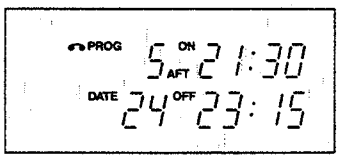
4 Set the day and month.
The year will be displayed automatically.



5 Set the on-time.



6 Set the off-time with the number button.
The ⏎ indicator will appear and the VTR enters the timer recording standby mode.

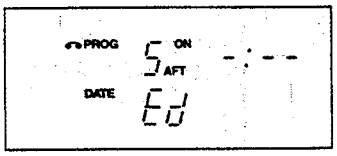


To set other timer recordings, press ON/STANDBY to turn on the VTR and repeat steps 2 to 6.
When you have preset more than two recordings with different recording tape speeds, all the recordings are performed with the tape speed of the last preset recording.

The VTR will automatically turn on when the preset time comes and will start recording. When it completes recording, the power will automatically be turned off.

For daily recording

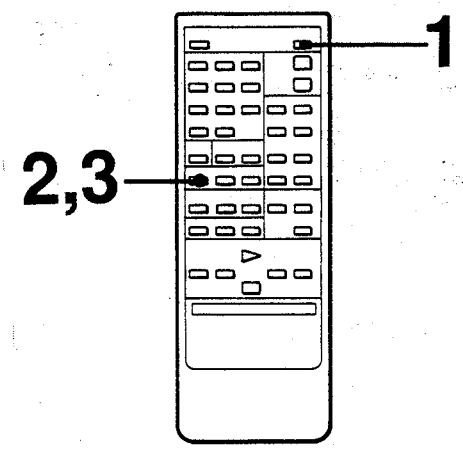
Press "0" twice in step 4.
The day and month display becomes "Ed".



Note on the timer-activated recording

If the tape reaches its end before the preset end time, the VTR will stop and will be turned off automatically.

Checking the Preset Time

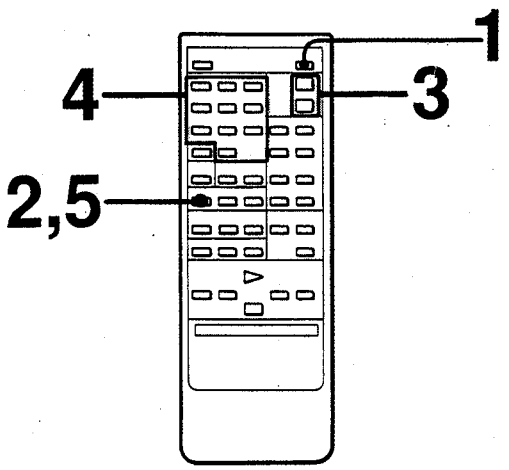


1 Turn on the VTR.

2 Press TIMER SET.
The VTR enters the timer setting mode.

3 Press TIMER SET.
Each time TIMER SET is pressed, the preset timer settings will be displayed successively.
To check the month and year, press PROG + twice.
When TIMER SET is pressed at the last preset program, the check mode will be released and the VTR enters the timer recording standby mode.

Changing the Timer Settings



1 Turn on the VTR.

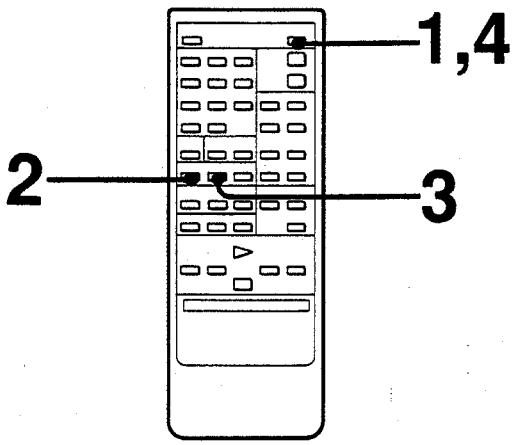
2 Press TIMER SET until the program to be changed appears in the display window.

3 Press PROG + until the item to be changed blinks.

4 Press the number buttons to correct the item.

5 Press TIMER SET.
The VTR enters the timer recording standby mode.

Cancelling the Timer Setting



1 Turn on the VTR.

2 Press TIMER SET until the program to be cancelled appears in the display window.

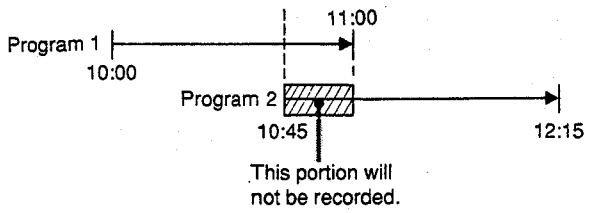
3 Press TIMER CLEAR.
To cancel other programs, repeat steps 2 and 3.

4 Turn off the VTR to return to the timer recording standby mode if there are other programs set for timer recording.

When the Settings of Timer-Activated Recording Overlap

If the settings of two recordings overlap

The recording of program 2 will not begin until the recording of program 1 is finished.



If the on-time of two or more recordings is the same

The recording that was first entered will be made. Other settings will be erased.

Notes

- If a power interruption of 1 hour or more occurs while the VTR is waiting for the preset time, the memory will be cleared. Reset the clock and preset the data for timer-activated recordings again.
- If a power interruption of less than 1 hour occurs during a timer recording, the VTR will start recording again when power is fed, and the tape counter will indicate "0H00M00S."
- If a power interruption of more than 1 hour occurs during a timer recording, recording will stop.

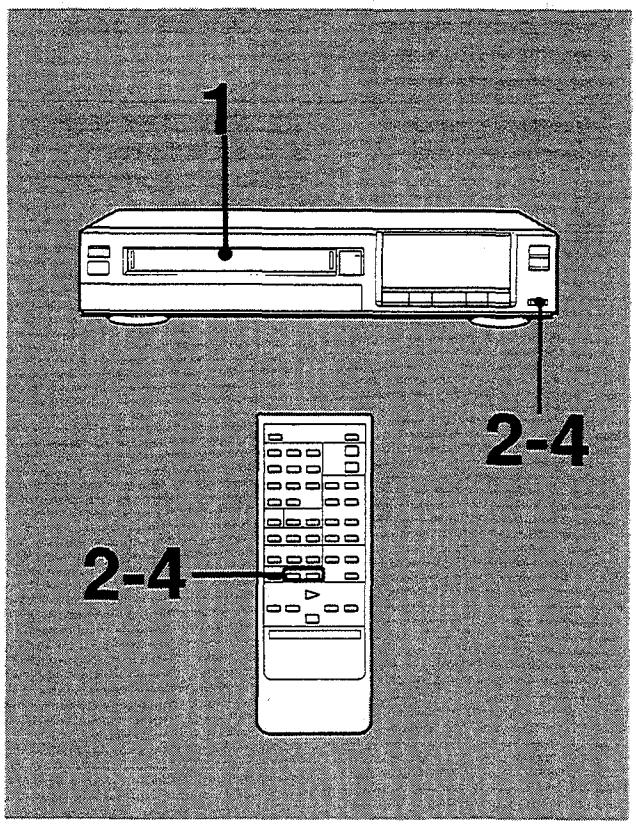
Problems on Timer-Activated Recording

Symptom	Possible cause
After completing the setting, the ⏲ indicator blinks.	No cassette is inserted. Insert the cassette and turn off the VTR.
The cassette is ejected when the VTR is turned off after setting the timer.	The safety tab is broken off.
The desired program cannot be recorded.	COLOR SYSTEM SELECT is not set to the color system for the program to be recorded.

Quick Start Recording

The quick start recording function provides a simplified timer-activated recording procedure.
Using this function, you can start recording a TV program immediately and leave the VTR right away.

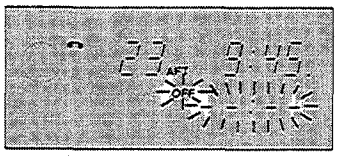
Start Recording



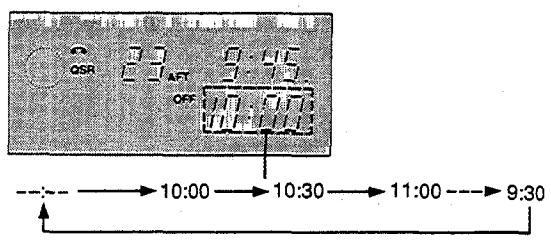
1 Insert a cassette.

2 Press ● REC to start recording.

3 Press ● REC again.
The OFF and - -:- - indicators blink in the display window.



4 Set the recording end time by pressing ● REC, while the OFF indicator blinks (within 10 seconds).
You can set the end time in units of 30 minutes.
Each press of ● REC changes the time as follows:



If you do not press ● REC while the OFF indicator blinks
The OFF indicator goes off, and the recording continues to the end of the tape unless you stop recording.

You can leave the VTR unattended, and the recording stops when the preset recording duration has elapsed.

To check or change the end time

When the ● REC button is pressed during the quick timer recording, the recording end time will appear in the display window for 10 seconds. You can change the end time using the ● REC button during this 10-second period.

If you use the Remote Commander

Press the ● REC and the auxiliary buttons simultaneously.

When the tape reaches its end
Recording stops, but the tape will not be rewound to the beginning. Power is turned off automatically.

Index Function

A desired program can be easily located by an index signal marked on the tape.

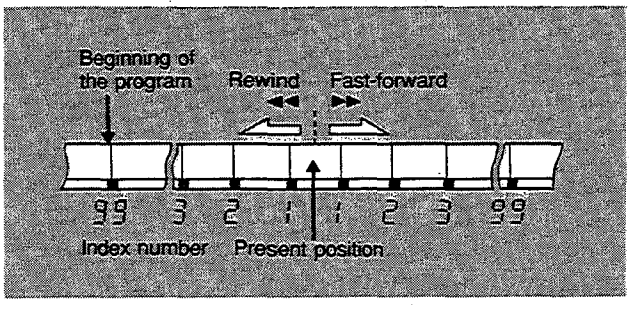
How Index Signals are Marked

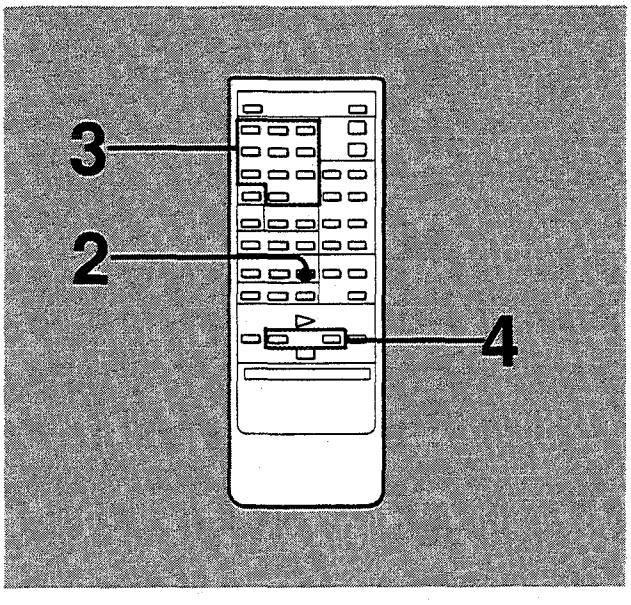
An index signal is automatically marked on the tape when a recording starts.
The "Id" indicator blinks in the display window while an index signal is being marked.

Note
The index signal is marked only when you start recording from the stop mode.
If the VTR is set to the recording pause mode and then recording is resumed, no index signal will be marked.

Locating a Desired Program — Index Search

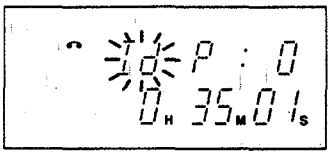
You can locate a desired program and play it back automatically by designating its index position.
Up to the 99th index signal from the present position on the tape can be located.



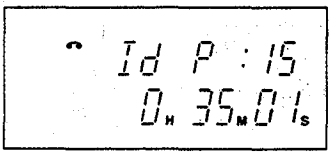


1 Insert a recorded cassette.

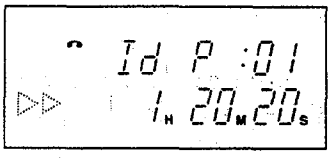
2 Press INDEX/GO TO during stop or playback mode.
The index indicator appears.



3 Designate the index number of the program you want to locate.
The index number will be displayed in the display window.



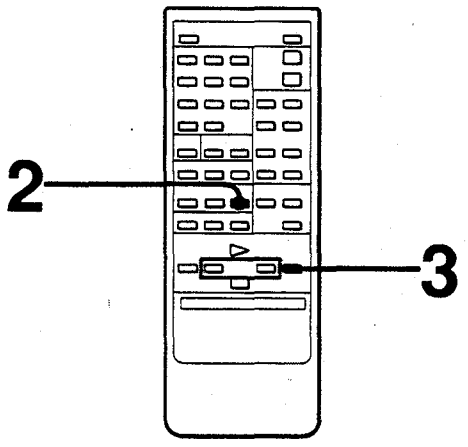
4 To locate a previous program on the tape, press ◀◀ REW.
To locate a program ahead, press ▶▶ FF.
The tape will be rewound or advanced rapidly and played back automatically. Every time an index signal is detected, the index number will decrease.



To release the index mode
Press INDEX/GO TO on the Commander **twice**.

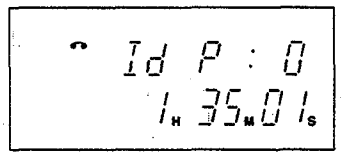
Watching the Beginning of Each Recording Consecutively—Index Scan

You can watch the beginning of each recording consecutively by detecting the index signal one by one.

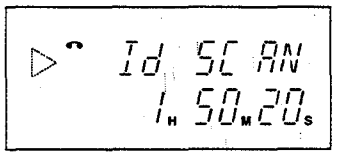


1 Insert a recorded cassette.

2 Press INDEX/GO TO during stop or playback mode.
The Id (index) indicator appears.



3 Press ▶▶ FF or ◀◀ REW.



The tape will be advanced rapidly or rewound, and the VTR will search for an index signal.
While the VTR is searching for the first index signal, "Id SCAN" will appears in the display window.
Each time an index signal is detected, the VTR enters the playback mode, and a portion of 5 seconds will be played back. Then the VTR will resume searching for the next index signal.

To view the normal playback picture

Press ▶ **PLAY** during the index playback for 5 seconds.

To stop index scan

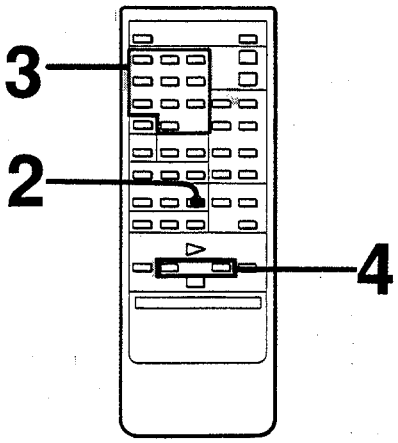
Press ■ **STOP.**

To release the index mode

Press INDEX/GO TO on the Commander **twice.**

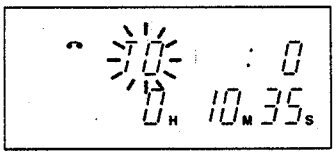
Time Search Function

You can quickly advance or rewind the tape to any point measured in actual playback time and play back the tape automatically from the point.

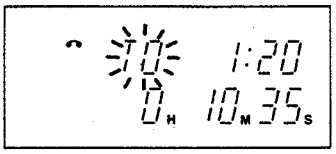


1 Insert a recorded cassette.

2 Press INDEX/GO TO twice during stop or playback mode.
The TO indicator appears and the counter indicator changes to "0".



3 Designate the time for which you want to advance or rewind the tape.

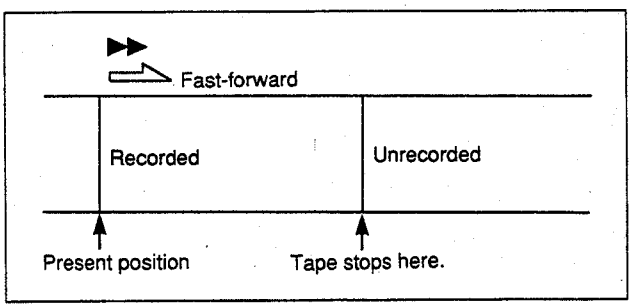


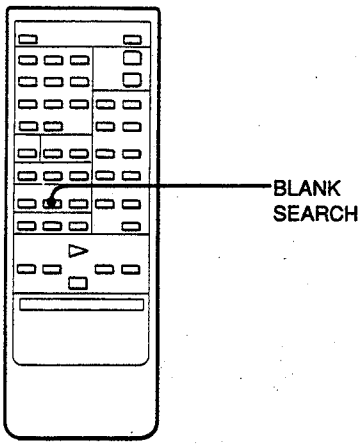
4 To advance the tape, press ▶▶ FF.
To rewind the tape, press ◀◀ REW.
After the tape is advanced or rewound for the setting time, the playback starts automatically.

Note
The error between the designated time and the counter reading is about ±30 seconds.

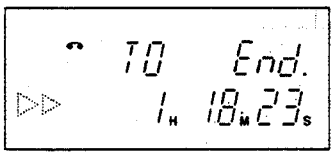
Blank Search Function

This function automatically searches for the next blank (unrecorded) portion of the tape, and stops the VTR at that point.
This is convenient when you want to start recording again at the end of the previous recording.





Press BLANK SEARCH in the stop or playback mode.
During searching, the TO END indicator will appear in the display window.



The tape advances rapidly and automatically stops at the beginning of the next blank portion.

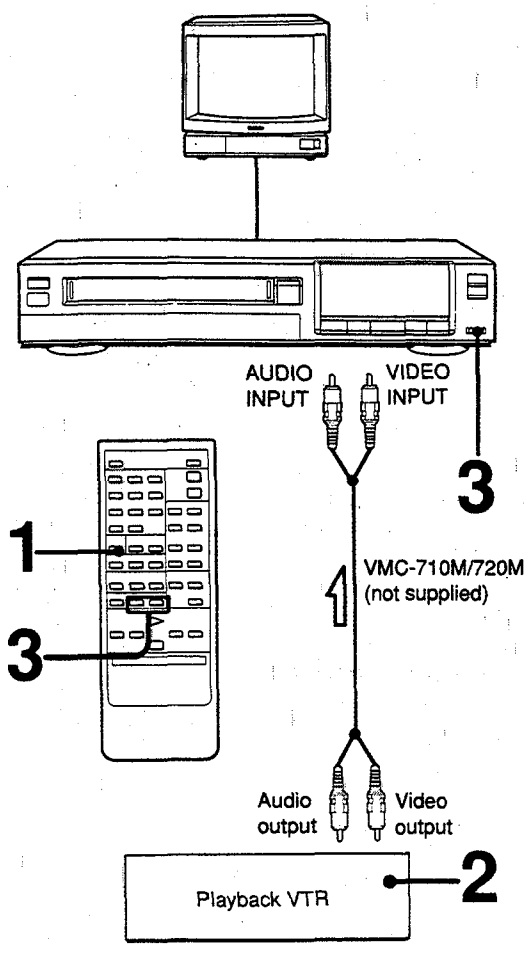
Notes

- If a blank tape or a tape with no blanks is used, the VTR searches for the blank all the way to the tape end and then starts searching towards the beginning of the tape. Searching stops at the beginning of the tape.
- The stopping position may vary slightly.

Tape Editing

To edit a home movie tape, you need another video cassette recorder.

Editing Home Movie Tapes from Another



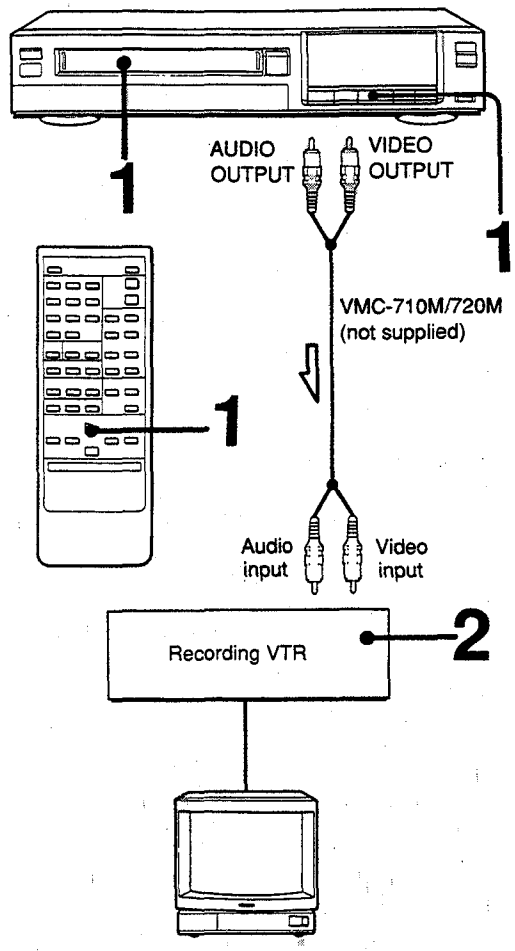
Operation

1 Press INPUT SELECT so that the AU indicator lights in the display window.

2 Insert a recorded cassette into the other VTR and start playback.

3 Start recording with this VTR.

Editing Home Movie Tape onto Another VTR



Operation

1 Insert a recorded cassette into this VTR and start playback.

2 Set the input select switch to LINE and start recording with the other VTR.

Specifications

System

Format	VHS standard
Video recording system	Rotary 2-head helical scanning system
Audio recording system	Monaural
Video signal	PAL/SECAM/MESECAM/NTSC3.58/ NTSC4.43
Tape speed	PAL/SECAM/MESECAM SP: 23.39 mm/sec LP: 11.70 mm/sec NTSC SP: 33.35 mm/sec LP: 16.67 mm/sec EP: 11.12 mm/sec
Maximum recording time	PAL/MESECAM SP: 240 minutes with E-240 LP: 480 minutes with E-240 NTSC SP: 160 minutes with T-160 EP: 480 minutes with T-160
Fast-forward and rewind time	Approx. 4 min. 15 sec. (with E-180)
Audio frequency response	80 Hz - 10 kHz
Distortion	Less than 3.5%
Wow and flutter	Less than 0.35%

Tuner Section

Tuner system	39-position voltage system tuner
Channel coverage	See page 11.
Antenna	75 ohm antenna terminal for VHF/UHF
RF converter output	UHF channel 30 to 39

Inputs and Outputs

Video	VIDEO INPUT: phono jack 1.0 V ±0.5 V (p-p) 75 ohms, unbalanced, sync negative VIDEO OUTPUT: phono jack 1.0 V (p-p) ±0.2 V (p-p) 75 ohms, unbalanced, sync negative
Audio	AUDIO INPUT: phono jack More than 50 kilohms, –8 dBs (0 dB = 0.775 V rms) AUDIO OUTPUT: phono jack Load impedance less than 10 kilohms, –8 dBs

Timer Section

Clock	Quartz locked
Time indication	24-hour indication
Timer setting	6 programs for 1 year max.
Power back up	Back-up duration: approx. 1 hour
Tape counter	Linear time counter

General

Power requirements	110 – 240 V AC, 50/60 Hz
Power consumption	27 W
Dimensions	430 × 90 × 359 mm (w/h/d) (17 × 3 5/8 × 14 1/4 inches) including projecting parts and controls
Weight	Approx. 6.1 kg (13 lb 11 oz)

Remote Commander

Remote control system	Infrared control
Power requirements	3 V DC, two R6 batteries
Dimensions	61 × 18 × 175 mm (w/h/d) (2 1/2 × 23/32 × 7 inches)
Weight	Approx. 100 g (4 oz) (not including batteries)

Accessories Supplied

Remote Commander with two R6 batteries ..... (1)
75-ohm coaxial cable with DIN type connector ..... (1)
AC plug adaptor ..... (1)

Design and specifications are subject to change without notice.

Troubleshooting

If any difficulty should arise during operation, first check the power cord connection, then go through the following list. Should the difficulty persist, unplug the unit, and contact your Sony dealer or local authorized Sony service facility.

	Symptom	Possible causes and remedies
Power	The power is not turned on even if ON/STANDBY is pressed.	• The power cord is disconnected.
	The power is turned on, but the unit does not operate.	• The safety device on the unit has been activated. Press CL or turn the power off, disconnect the power cord from the wall outlet and leave the unit turned off for more than 1 hour.
	The power is turned on, but no indicators appear in the display window or they are not displayed correctly.	• Press CL or disconnect the power cord from the wall outlet.
Clock and timer	The clock has stopped and "88:88" is blinking.	• There has been a power interruption. Reset the date, clock time and timer settings.
TV reception	TV program is not clearly displayed on the TV screen.	• The channel for VTR is not correctly tuned on the TV. • The TV signal is weak. Adjust the direction of the antenna. • The AC power cord of the VTR is not connected firmly.
Recording and playback	The desired program cannot be recorded or played back.	• COLOR SYSTEM SELECT is not set to the color system for the program to be recorded or the tape to be played back.
	Noisy picture during recording	• The TV's program position is not set to that preset for the VTR. • The TV signal is weak. Adjust the direction of the antenna.
	No picture on the TV screen	• The program position for the VTR is not correctly tuned on the TV.
	Recording cannot be made.	• No cassette has been inserted. • The tape is at its end. • INPUT SELECT is not set correctly. For TV program recording, press INPUT SELECT so that the AU indicator does not light.
	The playback picture is not clear.	• The program position for the VTR is not correctly tuned on the TV. • A tape recorded on another VTR is being played back. Adjust TRACKING. (See page 16.) • The video heads are dirty. Clean the heads using the Sony T-25CL video head cleaning cassette. For details on cleaning, refer to the instructions furnished with the cleaning cassette. If the cleaning cassette is not available in your area, have the heads cleaned at the nearest Sony facility. If you used a commercially available wet-type cleaning cassette, it may have damaged the video heads. • The video heads are worn out. • Adjust SHARPNESS. (See page 17.)

Troubleshooting

	Symptom	Possible causes and remedies
Recording and playback	The picture moves vertically during picture search mode.	• Adjust the vertical hold control on the TV or color monitor.
	Sound drop-out	• The tape is defective. Use a new video cassette tape.
Timer recording	Timer setting cannot be made.	• The current time has not been preset.
	The ⏲ indicator is blinking after setting the timer.	• No cassette is inserted. • The tape is at its end.
	The cassette is ejected when the VTR is turned off after setting the timer.	• The safety tab is broken off. Cover the slot with plastic tape to re-record the cassette or use a new one. (See page 14.)
	Timer recording was not made.	• There has been a power interruption of 1 hour or more. Set the clock and the data for timer-activated recording again.
Others	Cassette cannot be inserted.	• Another cassette has been inserted.
	The Remote Commander cannot be operated.	• The batteries are exhausted.
	A mechanical noise is heard in the stop mode.	• When a cassette is inserted and the VTR is left in the stop mode with the power turned on for about 5 minutes, the tape protection mechanism will be activated automatically and a mechanical noise is heard.

ADVERTENCIA

Para evitar incendios o el riesgo de electrocución, no exponga la unidad a la lluvia ni a la humedad.

Para evitar descargas eléctricas, no manipule dentro de la unidad. Solicite los servicios de personal especializado.

Precaución
Los programas y películas de televisión, las videocintas, y demás materiales pueden tener reservado el derecho de reproducción. La grabación no autorizada de tales materiales puede ir en contra de lo dispuesto por las leyes sobre derechos de autor.

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